Having thus described the preferred embodiments, the invention is now claimed to be:

1. A docking assembly connected to a movable subject couch **(30)** for docking a movable subject couch **(30)** with an imaging apparatus **(10)**, the docking assembly including:

couch alignment surfaces **(72)** that mate with corresponding imaging apparatus alignment surfaces **(64)** of a connecting region **(50)** of the imaging apparatus **(10)** to define a docked position of the movable subject couch **(30)** with respect to the imaging apparatus **(10)**;

a docking sensor **(160)** that detects the movable subject couch **(30)** approaching the docked position;

a latch **(82)** that mates with the connecting region **(50)** of the imaging apparatus **(10)**; and

an actuator **(130, 154)** that cooperates with the latch **(82)** to bias the movable subject couch **(30)** into the docked position in response to the docking sensor **(160)** detecting that the couch **(30)** has approached the docking position.

2. The docking assembly as set forth in claim **1**, further including:

rolling elements **(74)** arranged between the couch alignment surfaces **(72)** and the corresponding imaging apparatus alignment surfaces **(64)** of the connecting region **(50)** of the imaging apparatus **(10)**.

3. The docking assembly as set forth in claim **1**, wherein the docking assembly further includes:

couch camming surfaces **(62)** that cooperate with camming surfaces **(74)** of the connecting region **(50)** of the imaging apparatus **(10)** to cam the movable subject couch **(30)** laterally

toward alignment with the docked position as the movable subject couch **(30)** approaches the imaging apparatus **(10)**.

4. The docking assembly as set forth in claim **1**, wherein the latch **(82)** includes:

a biasing spring **(88)**; and

a hook **(86)** that is biased by the biasing spring **(88)** toward a closed position, the hook **(86)** being cammed opened in opposition to the biasing spring **(88)** by a camming surface **(56)** of a latch block **(52)** as the movable subject couch **(30)** approaches the docked position, the biasing spring **(88)** biasing the hook **(86)** to close onto the latch block **(52)** as the hook **(86)** moves past the camming surface **(56)** and ceases contact therewith.

5. The docking assembly as set forth in claim **1**, wherein the actuator **(130, 154)** includes:

an electric motor **(154)**; and

a mechanical energy storage element **(130)** interposed between the motor **(154)** and the latch **(82)**, the mechanical energy storage element **(130)** cooperating with the latch **(82)** to bias the movable subject couch into the docked position when the motor **(154)** is not delivering mechanical energy.

6. The docking assembly as set forth in claim **5**, wherein the mechanical energy storage element **(130)** includes a spring **(130)** interposed between the motor **(154)** and the latch **(82)**.

7. The docking assembly as set forth in claim **6**, wherein the actuator **(130, 154)** further includes:

a drive shaft **(120, 134, 146)** arranged between the motor **(154)** and the latch **(82)**, the motor **(154)** driving the drive shaft **(120, 134, 146)** in a first direction to secure the latch

(82) onto the latch block (52) of the connecting region (50) of the imaging apparatus (10), the spring (130) storing energy received from the motor (154) during the driving in the first direction, the stored energy continuing to bias the latch (82) on the latch block (52) after the driving in the first direction ceases.

8. The docking assembly as set forth in claim 7, further including:

an undock camming surface (108, 110) that communicates with the latch (82) to cam the latch (82) open when the motor (154) drives the drive shaft (120, 134, 146) in a second direction opposite the first direction.

9. The docking assembly as set forth in claim 1, further including:

an electronic controller (200) communicating with the actuator (130, 154) and the docking sensor (160), the electronic controller (200) operating the actuator (130, 154) to cooperate with the latch (82) to bias the movable subject couch (30) into the docked position in response to the docking sensor (160) detecting the movable subject couch (30) approaching the docked position.

10. The docking assembly as set forth in claim 9, wherein the electronic controller (200) monitors a state of the docking assembly, the docking assembly being in one of a plurality of states including:

a ready-to-dock state (202) in which the latch (82) is biased into a closed position and the electronic controller (200) is waiting for the docking sensor to detect the movable subject couch (30) approaching the docked position;

a docked state **(204, 206)** in which the latch **(82)** is biased into the closed position and secured to the connecting region **(50)** by the actuator **(130, 154)**; and

an undocking state **(208)** in which the latch is biased into an open position by the actuator.

11. The docking assembly as set forth in claim **10**, further including:

a tabletop lock sensor **(212)** that indicates a locked condition of a subject transfer pallet **(28)** of the movable subject couch **(30)**, the electronic controller **(200)** monitoring the tabletop lock sensor **(212)** and prohibiting a docking assembly state transfer from the docked state **(204, 206)** to the undocking state **(208)** when the tabletop lock sensor **(212)** indicates an unlocked condition.

12. The docking assembly as set forth in claim **10**, further including:

an actuator sensor **(164)** that indicates a position of the actuator **(130, 154)**, the electronic controller **(200)** identifying the docking assembly state based on at least the docking sensor **(160)** and the actuator sensor **(164)**.

13. A magnetic resonance imaging apparatus including:

a housing **(12)** that houses at least a main magnet and magnetic field gradient coils and defines a bore **(14)**; and

the connecting region **(50)** of the docking assembly as set forth in claim **1** secured to the housing **(12)**.

14. The magnetic resonance imaging apparatus as set forth in claim **13**, wherein the connecting region **(50)** further includes:

a tongue **(60)** extending from the housing **(12)**, the tongue **(60)** defining the imaging apparatus alignment surfaces **(64)**; and

a latch block **(52)** disposed on the tongue, the latch **(82)** selectively latching onto the latch block **(52)**.

14. A couch including:

a wheeled subject support **(30)**; and

a docking assembly set forth in claim **1** for docking the wheeled subject support with a diagnostic imaging apparatus.

15. The couch as set forth in claim **14**, wherein the actuator **(130, 154)** includes:

a motor **(154)** disposed on the movable subject support **(30)** that selectively drives the latch **(82)** to mate with the connecting region **(50)** of the imaging apparatus **(10)**.

16. The couch as set forth in claim **15**, wherein the actuator **(130, 154)** further includes:

a spring **(130)** disposed between the motor **(154)** and the latch **(82)**, the spring **(130)** being mechanically loaded when the motor **(154)** drives the latch **(82)** to mate with the connecting region **(50)**, the loaded spring biasing the latch **(82)** into the mated position when the motor **(154)** ceases the driving.

17. A method for docking a movable subject support couch **(30)** with an imaging apparatus **(10)**, the method including:

moving the movable subject support couch **(30)** toward the imaging apparatus **(10)**;

responsive to the moving, mating a latch **(82)** connected with the movable subject support couch **(30)** with a connecting region **(50)** of the imaging apparatus **(10)**;

detecting the movable couch **(30)** approaching a docked position with respect to the imaging apparatus **(10)**; and

responsive to the detecting, biasing the movable subject support couch **(30)** into the docked position using the mated latch **(82)** as a first force anchor.

18. The method as set forth in claim **17**, further including:

locking a couch brake **(42)** after the movable couch **(30)** is biased into the docked position; and

responsive to an unlocking of the couch brake **(42)**, removing the biasing of the movable couch **(30)** into the docked position and unmating the latch **(82)** from the connecting region **(50)** of the imaging apparatus **(10)**.

19. The method as set forth in claim **17**, wherein the biasing of the movable subject support couch **(30)** into the docked position includes:

relatively drawing a second force anchor disposed on the movable couch **(30)** toward the first force anchor defined by the mated latch **(82)**.